



Department of Development Services

Building Division

4701 W. Russell Rd • Las Vegas NV 89118
(702) 455-3000 • Fax (702) 221-0630

Ronald L. Lynn, Director/Building Official

SUBJECT: TG-70 -2008 RESIDENTIAL SHEATHING SPECIAL INSPECTION

1.0 PURPOSE: This guideline supports a Building Division Directive #DB002 that requires the special inspection of roof sheathing under specific conditions for residential construction only.

The directive statement as released states:

“Clark County will continue to do roof sheathing inspections on the roof for slopes 5 units vertical in 12 units horizontal, or less. For roof slopes greater than 5 units vertical in 12 units horizontal, special inspection of the roof sheathing will be required by a Clark County approved special inspector working with a listed quality assurance agency.”

In addition to the directive statement above, some diaphragm applications require special inspection even with a low slope roof or for a floor. These diaphragms are usually referred to as high-load diaphragms and are subject to special inspection as required by IBC Code, Section 1704.6.1.

2.0 SCOPE: This guideline sets forth the technical reporting guidelines for residential sheathing inspections in accordance with DB002. This guideline is applicable to the International Building Code and International Residential Code.

3.0 ABBREVIATIONS & ACRONYMS:

CCDDS: Clark County Department of Development Services

CCDDS-BD: Clark County Department of Development Services-Building Division

QAA: Quality Assurance Agency

TG: Technical Guideline

APPROVED DATE: AUGUST 29, 2008

EFFECTIVE DATE: SEPTEMBER 30, 2008

| Revised By: | Concurred By: | Approved By: |
|-----------------------------------|---|---|
| /s/ | /s/ | /s/ |
| Paul Lum, P.E. Senior Engineer | John S. Telford, P.E. Principal Engineer | Theodore L. Droessler, P.E. Manager of Engineering |

- 4.0 DEFINITIONS:** For the purpose of this technical guideline, certain terms, phrases, words and their derivatives shall be construed as specified in this section, the Building Code of Clark County or the Building Administrative Code of Clark County.

None

5.0 REFERENCES:

Building Administrative Code of Clark County (BAC)

2006 International Building Code and 2006 International Residential Code

Southern Nevada Amendments to the 2006 International Building Code

TG-15 Quality System Manual

TG-16 Quality Assurance Agency Obligations

TG-17 Minimum Approval Criteria for Special Inspectors and Other Personnel

TG-50 Final Report Requirements

DB002 Roof Sheathing Inspections

6.0 RESPONSIBILITIES:

6.1 Project Owner

- 6.1.1** The project owner shall designate the QAA through the Building Official (request for Residential Sheathing Special Inspection services).

6.2 Building Division

- 6.2.1** Special inspection requirements will be determined during the plan examination process and specified on the QAA Special Inspection Agreement.
- 6.2.2** Building Division inspection personnel will continue to conduct roof sheathing inspections on the roof for slopes 5 units vertical in 12 units horizontal, or less (providing the roof is not subject to special inspection as a required for high load diaphragms).
- 6.2.3** Building Division inspection personnel will review field reports provided to the Permit Holder by the special inspector.
- 6.2.4** Building Division inspection personnel will record sheathing inspection results in accordance with established procedures.
- 6.2.5** Building Division inspection personnel will review final reports and enter the clearance in the computer for each permit after acceptance of the final report.
- 6.2.6** Building Division inspection personnel will transmit the accepted documents to CCDDS Records Division for archive.

6.3 Permit Holder

- 6.3.1** The Permit Holder shall select a QAA at or prior to the time of permit issuance.
- 6.3.2** The Permit Holder shall coordinate special inspection with the designated agency listed on the Quality Assurance Agency Special Inspection Agreement.
- 6.3.3** The Permit Holder shall schedule a sheathing inspection with CCDDS-BD.
- 6.3.4** The Permit Holder shall provide the special inspection field report to the CCDDS-BD building inspector for review and initial acceptance at the construction site.
- 6.3.5** The Permit Holder and QAA shall coordinate submission of the final report to CCDDS-BD.
- 6.3.6** The Permit Holder shall submit the final report to CCDDS-BD for review.
- 6.3.7** The Permit Holder shall verify that the final report has been accepted by CCDDS-BD.

6.4 Special Inspector

- 6.4.1** The Special Inspector shall perform all duties imposed through BAC 22.02.525.
- 6.4.2** The Special Inspector shall document the inspection and results, and provide a copy of the inspection report to the Permit Holder.
- 6.4.3** The Special Inspector shall comply with inspection procedures developed in accordance with section 7.0 of this document.

6.5 Quality Assurance Agency

- 6.5.1** The Quality Assurance Agency shall comply with BAC 22.02.530 and Technical Guidelines 15, 16 and 17 as applicable.
- 6.5.2** The QAA shall only assign CCDDS-BD approved special inspectors.
- 6.5.3** The QAA shall develop inspection procedures in accordance with section 7.0 of this document.
- 6.5.4** The QAA shall compile the final report and submit to the CCDDS-BD for acceptance.

7.0 PROCEDURE

7.1 General

- 7.1.1** Residential Sheathing Special Inspection requirements will be determined during the plan examination process. The Residential Sheathing Special Inspection will be designated as a special case item (item X). A Quality Assurance Agency Special Inspection Agreement will be generated and issued with the permit.
- 7.1.2** The Permit Holder may elect to have special inspection for the entire roof or floor high-load diaphragm when special inspection is required on only a portion of the floor or roof area.

- 7.1.3** The Permit Holder shall coordinate special inspection with the designated agency listed on the QAA Special Inspection Agreement.
- 7.1.4** The Special Inspector shall inspect in accordance with the most current approved plans, construction documents, and technical codes, then document the inspection and results, and provide a copy of the inspection report to the Permit Holder.
- 7.1.5** CCDDS-BD inspector assigned to the project will review the special inspection field report and will enter the requested inspection results in accordance with established policy and procedure.
- 7.1.6** A final report shall be filed with the CCDDS-BD prior to the required building framing inspection.

7.2 Inspection Parameters

7.2.1 Document Review

- 7.2.1.1 Sheathing
- 7.2.1.2 Fasteners
- 7.2.1.3 Framing members receiving the sheathing fasteners
- 7.2.1.4 Special considerations
 - 7.2.1.4.1 Anchorage to concrete or masonry wall
 - 7.2.1.4.2 Drag struts or collectors

7.2.2 Material Verification

- 7.2.2.1 Sheathing
- 7.2.2.2 Fasteners
- 7.2.2.3 Framing members receiving the sheathing fasteners
- 7.2.2.4 Special considerations
 - 7.2.2.4.1 Anchorage to concrete or masonry wall
 - 7.2.2.4.2 Drag struts or collectors

7.2.3 Installation Verification

7.2.3.1 Sheathing and support

- Panel Type
 - Plywood (PS-1 or PS-2)
 - Grade
 - Number of plies
 - Span index
 - Structural I or II
 - Oriented Strand Board – OSB (PS-2)
 - Span index
 - Structural I or II
- Panel Orientation
 - Length of panel across supports
 - Length of panel parallel to supports
- Diaphragm
 - Blocked – solid blocking at all edges & fasteners at all edges
 - Unblocked – most common type
 - Panel clips or edge support required
 - Sub-diaphragm – commonly used with concrete & masonry walls

7.2.3.2 Fasteners

- Nails
 - Common
 - Box
 - Galvanized box
 - Sinkers
- Staples
 - Wire gage
 - Leg length
 - Crown width
 - Orientation of staple into framing member
- Others
 - Pneumatic
 - Powder driven

7.2.3.3 Framing members receiving the sheathing fasteners

- General note requirements
 - Lumber species for nails and staples
 - Fastener spacing
 - Panel edges
 - Diaphragm edges
 - Field
- Specified lumber species based on general notes
 - Metal plate connected truss top chord lumber species
 - Engineered wood
 - I-joists
 - Glued Laminated Beams (GLB)
 - Laminated Veneer Lumber (LVL)

7.2.3.4 Special considerations

- Anchorage to concrete or masonry wall
 - Metal strap from wall to joist, truss or blocking
- Drag struts or collectors shall be verified as required on the approved construction documents. A specially designed truss or joist may be required.
 - Type
 - Metal plate connected truss
 - Lumber joist
 - I-joist
 - LVL
 - GLB
 - Steel angle, tube or beam
 - Fastener type & spacing
 - Multiple rows of fasteners required

7.2.4 Reporting

7.2.4.1 Field reports are to be written for any inspection time on the job site the same day as the inspection.

7.2.4.2 Final reports are to include copies of the original field reports and any supplemental information that is relevant to the acceptance of the installed sheathing.

7.2.4.3 The final report shall be assembled in accordance with Technical Guideline 50.

7.3 Documents necessary to the inspection process may include any or all of the following:

- 7.3.1** Framing Plans
- 7.3.2** Truss layout plan
- 7.3.3** Individual truss manufacturing specification sheet
- 7.3.4** Evaluation Service Report
- 7.3.5** Manufacturer installation instructions
- 7.3.6** Applicable code book
- 7.3.7** Product Standard

7.4 Resources to assist in the development of inspection procedures are contained in Annex 1.

8.0 RECORDS:

8.1 Final Reports shall be sent to the CCDDS Records Division for archival purposes.

8.2 Field reports are for use by the building inspector at the time of sheathing inspection and are not a record document.

9.0 ATTACHMENTS:

9.1 Sample of Residential Sheathing Special Inspection Report (Form 826)

10.0 REVISION HISTORY:

| Title | Revision/Approved Date | Effective Date |
|--------------|-------------------------------|-----------------------|
| TG-70-2008 | Approved – August 29, 2008 | September 30, 2008 |
| TG-70-2007 | Approved – August 1, 2007 | August 30, 2007 |
| TG-70-2006 | Approved – August 1, 2006 | August 31, 2006 |
| TG-70-2002 | Approved – November 14, 2002 | December 1, 2002 |



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Development Services
Building Division

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| | |
|-----------------|----------------|
| Report No. | |
| Page | _____ of _____ |
| Inspection Date | |
| Permit No. | |

RESIDENTIAL SHEATHING SPECIAL INSPECTION REPORT

| | |
|---------------------------|--|
| Project Name & Address: | |
| Quality Assurance Agency: | |

| INSPECTION ITEM | COMMENTS |
|-------------------------|----------|
| Sheathing Verification: | |
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| | |
| | |
| Fastener Verification: | |
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| | |
| Framing Verification: | |
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| Special Considerations | |
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|---|-----|----|--|
| INSPECTION SUMMARY | | | |
| | | | |
| | | | |
| | | | |
| CCBD Plan Approval Date: | | | |
| Product Installation Complies with requirements | Yes | No | |

I have reviewed the approved construction documents and verified that the installed materials are in compliance with the specified requirements.

| | |
|--------------------------------------|-------------|
| | |
| SPECIAL INSPECTOR (PRINTED) | |
| | |
| SPECIAL INSPECTOR (SIGNATURE) | DATE |

**Return completed certification to Clark County Department of
development Services – Building Division**

SHEATHING CLEARANCE PROCEDURE

This form is available at the Clark County Department of Development Services – Building Divisions and listed prime agencies.

1. This report shall be used to document residential sheathing special inspections.
2. The quality assurance agency special inspector shall complete the report and leave a field copy with the general contractor or permit holder.
3. The field copy shall be given to CCDDS-BD Inspector for review and recording of sheathing inspection results in accordance with established procedures.
4. A final report shall be filed with the CCDDS-BD prior to the required building framing inspection.
5. Accepted final reports will be sent to CCDDS-Record Division for archival.
6. Additional information is contained in Technical Guideline 70 (TG-70-2008).

Annex 1 – Supplemental Information

International Codes

International Residential Code R102.4 Referenced Codes and Standards

International Building Code – Chapter 35 Referenced Standards

International Building Code – Section 102.4 Referenced Codes and Standards

Specific Product Standards

DOC U. S. Department of Commerce

PS 1-07 Structural Plywood
<http://ts.nist.gov/Standards/Conformity/upload/PS%201%20final%20complete%20w%20cover.pdf>

PS 2-04 Performance Standard for Wood-based Structural-use Panels
<http://ts.nist.gov/Standards/Conformity/upload/ps2-04.pdf>

PS 20-05 American Softwood Lumber Standard
<http://ts.nist.gov/Standards/Conformity/upload/ps20-05.pdf>

ANSI American National Standards Institute

ANSI/TPI 1-2007 National Design Standard for Metal Plate Connected Wood Truss Construction